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Class Characteristics of Alphabetic Speedwriting Shorthand Systems

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ABSTRACT: The handwriting class characteristics of four alphabetic speedwriting shorthand systems are identified and compared. The four systems are analyzed and compared primarily by (1) letter form simplification; (2) printed and cursive capital letter forms; (3) disjoined and joined letter forms; (4) superscript and subscript letter or number forms, or both; (5) capital and small letters or symbols, or a combination of these, used as abbreviations; (6) nonalphabetic symbols; and (7) phrasing or combinations of symbols.

KEYWORDS: questioned documents, handwriting, speedwriting, class characteristics, alphabetic shorthand

Definitions of Terms

Specific system meaning—A letter or symbol that represents a prefix, suffix, word sound, or letter for a specific alphabetic speedwriting shorthand system.

Word outline—A combination of letters or symbols or both that replaces a complete word or phrase.

Subscript—A letter or symbol that is designed to be written through or below the baseline of the word outline for the purpose of a specific unique system meaning.

Superscript—A letter or symbol that is designed to be written off the baseline and above the word outline for the purpose of a specific unique system meaning.

Joined—A letter form (printed or cursive) or symbol that is written in a connected manner in an alphabetic speedwriting system.

Disjoined—A letter or symbol that is written in an unconnected manner within an alphabetic speedwriting shorthand system.

Printed—A noncursive form usually written with little or no retracing or initial or terminal strokes. It may be used in an alphabetic speedwriting shorthand system as an alternative form to differentiate letters for the purposes of specific system meaning.

Cursive—A connected letter form which may or may not have a specific system meaning.

Letter form simplification—Small letter forms that are singled out in an alphabetic speedwriting shorthand system to be alternative forms from the generally accepted copybook forms (see Table 1).

Nonalphabetic forms—Symbols or punctuation marks that are not parts of the alphabetic (a to z) system which are used in an alphabetic speedwriting shorthand system for specific system meaning or punctuation (see Table 5).

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Alphabetic Speedwriting Shorthand

Unlike symbolic shorthand systems, such as the Gregg or Pitman systems, which almost exclusively use a system of symbols, alphabetic speedwriting shorthand systems use the letters of the alphabet and, in some systems, a limited number of nonalphabetic symbols to represent word prefixes, suffixes, and sounds. The one principle of the majority of shorthand system is to write what you hear. For example, in one system the capital letter C represents the ch sound. The word "check" is written as Ck. Nonalphabetic symbols are used in a similar manner. A hyphen is used in one system for the ed word ending. Thus, the word "finished" is written as fns-.

The advantage of any alphabetic speedwriting shorthand system is that, for purposes of transcription or note-taking, it is faster to write in a shorthand system than in longhand. Therefore, the alphabetic shorthand systems are an alternative to the symbolic shorthand systems, such as the Gregg system. Publishers of alphabetic shorthand systems have designed their product to be used in both secondary schools and postsecondary schools and colleges.

A review of the questioned document literature reveals an absence of research on alphabetic shorthand systems. An informal survey found a lack of awareness among questioned document examiners about alphabetic shorthand systems. Therefore, the objectives of this research were clearly established. They were, first, to generate awareness among questioned document examiners that alphabetic shorthand systems exist; second, to analyze class characteristics of each of the four currently published systems; and third, to create a reference and a resource for future study and current analysis of questioned document problems related to alphabetic speedwriting shorthand systems.

Four Systems

The four alphabetic shorthand systems analyzed for this research project are described in the following current publications: *Principles of Speedwriting Shorthand* [1], published by Glencoe Publishing Co., which is a division of McMillan, Inc.; *Stenoscript ABC Shorthand* [2], published by Productivity Software International Inc.; *Super Write Alphabetic Writing System* [3], published by Southwestern Publishing Co.; and *Study Skills and Notetaking* [4], published by Paradigm Publishing. For purposes of this research paper, these published systems are identified respectively as Systems 1, 2, 3, and 4. Each system has its own objectives and utilization of letters and symbols. However, the author of this paper is primarily concerned with analysis of selected class characteristics of the systems from the viewpoint of the questioned document examiner. No evaluation or judgment is made or implied regarding the educational principles, efficiency, or effectiveness of the four systems, either individually or collectively.

The most current published form of each system was used for analysis in this research project. It is interesting that in spite of the decline of traditional shorthand and the advent of electronic dictation and word processing systems, new alphabetic shorthand systems are being published. In fact, both System 3 and System 4 were first published in 1990.

Method and Scope of Analysis

The primary method of analysis was by direct observation of selected class characteristics of each system. After initial evaluation of each system, a decision was made to limit analysis to the following characteristics:

- (a) letter form simplification;
- (b) specific system meaning of capital letter, small letter, and nonalphabetic forms;
- (c) determination of multiple letter forms;

- (d) identification of specific printed forms;
- (e) joined and disjoined forms;
- (f) subscript and superscript forms;
- (g) abbreviations (with the exception of small letters and phrasing of word outline forms); and
- (h) nonalphabetic forms (both for purposes of unique system meaning and for punctuation).

The organization and presentation of all four systems is done by first identifying the specific system meanings and then describing for each one the letter or symbol used to represent that particular meaning. The analysis for this research project was performed by first examining each letter form (capital and small letter) and each nonalphabetic form and then describing the selected class characteristic.

This method of analysis was determined to be of more potential value to questioned document examiners because it provides a common basis for comparison. Individual writers were not the objective of the study. It is well known that individual characteristics that are a departure from the copybook form have greater identification value. Therefore, the questioned document examiner must be knowledgeable about handwriting systems in order to compare and evaluate handwriting properly [5], although it is generally agreed that similarities or differences in letter forms or other class characteristics alone do not provide the basis for identification or elimination [6].

It is important to differentiate between a handwriting system, such as the Palmer or Zaner-Bloser systems, and the four speedwriting shorthand systems which are the subject of this paper. It is handwriting systems that determine the master pattern which the writer then individualizes in a progressive manner as he or she approaches graphic maturity [7].

Alphabetic speedwriting shorthand systems are not intended to teach someone how to write, but do provide a systematic method for taking notes and transcription. It is probably more accurate to think of alphabetic shorthand systems as a potential "foreign" influence on the individual writer. However, the impact or evaluation of these systems on the individual writer is beyond the scope of this paper.

Results of Analysis

Tables 1 through 7 are the complete compilation of the class characteristics analyzed. However, some notable results for each system need emphasis.

System 1, which is the oldest of the four systems, is the most complex system because it uses the most capital letter and nonalphabetic forms for unique system meaning [8]. Unique system meaning is defined as the designation of a letter form or symbol in place of a word, prefix, suffix, word sound, or letter. When these symbols with unique system meaning are used in combination, they form word outlines that are a short representation of the full word or phrase.

Specific results include the simplification of 17 small letters, with 5 that have multiple forms. Fourteen capital letters, 23 small letter forms, and 10 nonalphabetic symbols also have specific system meaning. System 1 designates 5 capital printed forms and one small letter printed form as having specific system meaning. There are 4 specifically disjoined forms and one superscript form that have unique system meaning. This system also uses 9 capital letters as specific abbreviations. In addition, System 1 also uses numerous small letter forms as abbreviations. However, no analysis or tabulations of the small letter forms as abbreviations was attempted.

System 2 has 7 capital, 12 small letter, and 5 nonalphabetic forms with specific system meaning. This system also uses 13 small letter forms for simplification. Analysis revealed that System 2 does not use any multiple letter forms. Also, System 2 does not use any

TABLE 1—Simplification of letter forms in the four systems.^a

LETTER FORM	SYSTEM 1	SYSTEM 2	SYSTEM 3	SYSTEM 4	LETTER FORM	SYSTEM 1	SYSTEM 2	SYSTEM 3	SYSTEM 4
<i>b</i>	¹ <i>b</i>	¹ <i>b</i>	⁸ <i>b</i>	¹ <i>b</i>	<i>p</i>	² <i>p</i>	⁵ <i>p</i>	⁸ <i>p</i>	² <i>p</i>
<i>d</i>	⁵ <i>d</i>	⁵ <i>d</i>	⁵ <i>d</i>	⁵ <i>d</i>	<i>g</i>	⁶ <i>g</i>	⁶ <i>g</i>	⁶ <i>g</i>	⁶ <i>g</i>
<i>f</i>	¹ <i>f</i>	¹ <i>f</i>	⁸ <i>f</i>	^{7,1,2} <i>f</i>	<i>s</i>	⁷ <i>s</i>	⁸ <i>s</i>	⁸ <i>s</i>	⁸ <i>s</i>
<i>g</i>	^{2,7} <i>g</i>	² <i>g</i>	⁸ <i>g</i>	^{7,2} <i>g</i>	<i>t</i>	^{3,9} <i>t</i>	⁹ <i>t</i>	^{7,9} <i>t</i>	^{7,9} <i>t</i>
<i>h</i>	¹ <i>h</i>	¹ <i>h</i>	⁸ <i>h</i>	¹ <i>h</i>	<i>v</i>	¹⁰ <i>v</i>	⁸ <i>v</i>	⁸ <i>v</i>	¹⁰ <i>v</i>
<i>i</i>	^{3,4,7} <i>i</i>	⁴ <i>i</i>	⁸ <i>i</i>	⁴ <i>i</i>	<i>x</i>	^{7,9} <i>x</i>	⁸ <i>x</i>	⁸ <i>x</i>	⁹ <i>x</i>
<i>j</i>	^{4,5,7} <i>j</i>	⁴ <i>j</i>	⁸ <i>j</i>	^{4,5,7} <i>j</i>	<i>y</i>	^{7,2} <i>y</i>	² <i>y</i>	⁸ <i>y</i>	⁸ <i>y</i>
<i>k</i>	⁵ <i>k</i>	⁵ <i>k</i>	⁸ <i>k</i>	—	<i>z</i>	^{7,5} <i>z</i>	⁵ <i>z</i>	<i>z</i>	—
<i>l</i>	⁶ <i>l</i>	⁶ <i>l</i>	^{8,6} <i>l</i>	⁶ <i>l</i>					

^aNotes:

- 1 No approach stroke or upper loop.
- 2 No approach stroke or lower loop.
- 3 No approach stroke.
- 4 No dot.
- 5 No loop.
- 6 System shows open loop—not retraced.
- 7 Multiple forms.
- 8 Included with this table for comparison with other systems.
- 9 No cross.
- 10 Sharp angular form.

printed or disjoined letter forms for specific system meaning. This system has 21 superscript and 4 subscript forms in very specific abbreviations. Table 6 provides a complete list of these specific forms. One subscript form is used for a specific system meaning. Eleven capital letter forms are used for abbreviations in System 2.

System 3 has an approach that is different from those of all the other systems in that it does not require any change in the writer’s “normal writing style” and “does not require memorizing a new alphabet” [3]. In fact, there is no letter form simplification or non-alphabetic form used in System 3. However, System 3 does designate the small letter t for simplification. This also is the only multiple form. System 3 does use 5 capital letter forms and 17 small letter forms for specific system meaning. However, this system uses only one disjoined letter form and no printed, subscript, or superscript forms for specific system meaning. System 3 uses only one capital form as an abbreviation. Further, System

TABLE 2—Comparison of capital letter forms in the four systems.

SYSTEM	LETTER FORM	SYMBOL	SOUND, PREFIX OR SUFFIX	EXAMPLE	NOTES
1	A	<i>Q</i>	ad-, al-	<i>aws</i> ADVISE	a
1,2	B	<i>B</i>	-ble, -bel, -bly	<i>aB</i> ABLE	a
1,2,4	C	<i>C</i>	ch	<i>leCr</i> TEACHER	a
2	C	<i>C</i>	circ-, circum-	<i>Cl</i> CIRCLE	a
1	D	<i>D</i>	dis-	<i>Dis</i> DISTANT	a
2	F	<i>7</i>	-ful	<i>ka7</i> CAREFUL	a, e
1	M	<i>m</i>	mis-	<i>mla</i> MISLEAD	a
1,2,3	N	<i>n</i>	enter-, inter-, -nse, -nce	<i>nl</i> ENTERTAIN	a
1	N	<i>n</i>	in-, -nt, -nd, -end	<i>ndn</i> INDENT	a
3	O	<i>O</i>	over-	<i>olm</i> OVERTIME	a
1	P	<i>P</i>	per-, pur-, pre-, pro-	<i>Ppr</i> PREFER	d
1,2	S	<i>S</i>	-st	<i>st</i> TEST	a
3,4	S	<i>S</i>	-tion (system 3 only) sh(ish) (system 3 & 4)	<i>shst</i> SUFFICIENT	a
1	S	<i>S</i>	-script, -scribe, super-, circ-, circum-	<i>sm</i> SUPERMAN	d
1	S	<i>S</i>	cer-, cir-, ser-, sur-	<i>Sr</i> SERVE	c
2,3	T	<i>T</i>	trans-	<i>Tml</i> TRANSMIT	a
1	T	<i>T</i>	trans-	<i>Tpr</i> TRANSFER	d
3,1	U	<i>U</i>	under- (system 3) un- (system 1)	<i>Uak</i> UNDERTAKE	a
1	X	<i>X</i>	extra-, extr	<i>X</i> EXTREME	c

^aCapital cursive form.

^bCapital printed form.

^cJoined capital printed form.

^dDisjoined capital printed form.

^eFormed like the number 7 with a cross bar.

^fOther capital forms may be used as brief forms or as abbreviations.

TABLE 3—Capital letter forms used as abbreviations.

SYSTEM	LETTER FORM	SYMBOL	SYMBOL USE AS ABBREVIATION FOR:	SYSTEM	LETTER FORM	SYMBOL	SYMBOL USE AS ABBREVIATION FOR:
2	A	<i>a</i>	ANSWER	1	L	<i>L</i>	LETTER
1	B	<i>B</i>	ABLE	2	M	<i>m</i>	MONTH
1	B	<i>B</i>	BILLION	1	M	<i>m</i>	MISS
3	C	<i>C</i>	WHICH	1	M	<i>M</i>	MILLION
2	D	<i>D</i>	DAY	1	N	<i>N</i>	NORTH
1	D	<i>D</i>	DISTRIBUTE	2	O	<i>O</i>	OUT
1	E	<i>E</i>	EVER, EVERY	1	O	<i>O</i>	OVER
1	E	<i>E</i>	EAST	1	P	<i>P</i>	PRESENT, PRESIDENT
2	H	<i>H</i>	HOWEVER	2	Q	<i>Q</i>	QUESTION
1	H	<i>H</i>	HUNDRED	1	S	<i>S</i>	STREET
2	I	<i>I</i>	I	1	S	<i>S</i>	SUPERINTENDENT, SOUTH
1	K	<i>K</i>	CUSTOMER	1	T	<i>T</i>	THOUSAND
1,2	U	<i>U</i>	UNDER	2	W	<i>W</i>	WEEK
1	U	<i>U</i>	UNIVERSITY	1	W	<i>W</i>	WEST
2	V	<i>V</i>	OVER	2	Y	<i>Y</i>	YEAR

3 is the only one of the systems that uses capital letters for the first letter of a proper name, yet like all the three other systems, it does not use capital letters in the first word of a sentence.

System 4 is designated as a "system of rapid writing" [4]. This system designates 11 small letter forms for simplification, and 4 of these have multiple forms. System 4 has 2 capital and 27 small letter forms that have a specific system meaning. This system has only 2 printed, 8 disjoined, 2 superscript, and one subscript form with specific meaning. Only one nonalphabetic form has a specific system meaning for this system. No capital letters are used as abbreviations in this system.

One aspect of this system and of the other three which was not part of the class characteristics analyzed was the use of small letter forms or a combination of small letters to make a specific abbreviation or to create phrasing. For example, in System 4, the

TABLE 4—Comparison of small letter forms in the four systems.

SYSTEM	LETTER FORM	SYMBOL	SOUND, PREFIX OR SUFFIX (Also See Note A)	EXAMPLE	NOTES
1	a	ɑ	av	<i>dra</i> drawing	
2	a	ɑ	ad-, al	<i>ame</i> admire	
3,4	b	<i>b</i> <i>ḅ</i>	be-, ble	<i>trb</i> trouble	
2	c	C	ch-	<i>tc</i> teacher	
4	c	C	con-, com-	<i>ctrol</i> control	
4	c	C	-icle, -cal, cle	<i>loyc</i> logical	b
4	d	d	-ed	<i>savd</i> saved	
3	d	d	de-	<i>dcid</i> decide	
4	e	ē	-ly	<i>rede</i> readily	
3	f	<i>f</i> <i>ḅ</i>	for-, fore-, fur	<i>fcst</i> forecast	
1,3	f	f	-ful	<i>crf</i> careful	
4	f	f	-ful	<i>graf</i> grateful	
4	f	<i>f</i> <i>ḅ</i>	-ify, ification	<i>notḅ</i> notify	b
1	g	g	-gram	<i>Pg</i> program	
2	g	g	-ng	<i>elg</i> eating	
3	g	g	-ing	<i>grog</i> growing	b
4	g	g	The word ago used in common phrases	<i>dasg</i> days ago	
4	g	<i>g</i> <i>gs</i>	-ing, ings	<i>prtḅ</i> parting	b
1	h	h	-hood	<i>prnh</i> parenthood	
2	j	1	shun, chun	<i>okj</i> occasion	
1,2	k	k	com, con-counter, contra	<i>kn</i> common	
1,2 3	l	l	-ly	<i>fm</i> family	

TABLE 4—Continued.

2	m	<i>m</i>	mis-	<i>mfl</i>	misfit	
3,4	m	<i>m</i>	mem-, ment- [im, em-System 4 only]	<i>mbr</i>	member	
1,4	m	<i>m</i>	-ment	<i>pam</i>	payment	
4	m	<i>mo</i>	mis-	<i>malac</i>	mistake	
1,3 4	n	<i>n</i>	en-, in [un- System 4 only]	<i>nbr</i>	entire	
4	n	<i>n</i>	inter-, enter- intr-, entr-	<i>n du</i>	introduce	b
1	o	<i>o</i>	ow	<i>lon</i>	town	
3	o	<i>a</i>	oi, au, ov, oy	<i>flowr</i>	flower	
4	ot	<i>ot</i>	ort	<i>spot</i>	sport	
4	o	<i>o</i>	over	<i>hed</i>	overhead	c
3	p	<i>p</i>	-pal, -ple	<i>amp</i>	ample	
3	pr	<i>pr</i>	pre-, pro-	<i>prf</i>	prefer	
1, 2 3	q	<i>q</i>	[qu, vowel + nk] [kw, System 1 only]	<i>qt</i>	quit	
1,4	q	<i>q</i>	quire	<i>aq</i>	acquire	
3,4	r	<i>r</i>	re-	<i>rpr</i>	repair	
4	r	<i>r</i>	-ure	<i>procedr</i>	procedure	
3	s	<i>s</i>	-s	<i>las</i>	laws	
1	s	<i>S</i>	sub-	<i>Sa</i>	subway	d
4	s	<i>s</i>	sub-	<i>srbn</i>	suburban	g
1	s	<i>A</i>	sh(ish)	<i>isu</i>	issue	
1	s	<i>s</i>	-cial (shul) -tial (chul)	<i>spal</i>	special	
4	s	<i>s</i>	super	<i>sves</i>	supervise	c
4	s	<i>s</i>	self	<i>ss</i>	selfish	
1	sl	<i>sl</i>	shul, chul -cial, -tial	<i>spal</i>	special	
3	t	<i>t</i>	th	<i>tut</i>	tooth	e

TABLE 4—Continued.

1	t	l	th		them	f
2,3	t	l	t		treat	f
3,4	t	l	-ity		quantity	b,f
4	t	t	-ther (ith)		gather	e
4	t	l	trans-		transfer	b,f
4	tn	ln	-tain		detained	f
1,2,3 4	u	u	un- under (System 4)		until underneath	c
4	ul	u	ul & al [omit l]		result	
1	v	v	-tive		relative	
2	v	v	-tive		relative	
1	w	w	-ward		toward	
1	x	\	vowel + x		explain	
3,4	x	x	ex-		expert	
1	x	x	medial & final x		boxes	
2	x	x	eeus, shul, shus		devious	
1,2	y	y	oy (System 2) ry & rry or (oi)		loyal	
2	z	3	sh(ish)		fish	
1	z	3	zh		pleasure	

^aJoined letter form.

^bDisjoined letter form.

^cDisjoined and superscript form.

^dPrinted and joined small s.

^eCrossed t.

^fUncrossed t.

^gDisjoined and written through the baseline (subscript).

^hMany small letter forms are also used as abbreviations. The source publications should be consulted for each system.

TABLE 5—Continued.

1	CAPITALIZATION	BILL
1)	<i>bl</i>
1)	<i>mg mym</i> MONEY MANAGEMENT
1,2	✓	—
1	×	— X
1	€	€
2	⤵	⤵
1	>	END OF PARAGRAPH
1	.	A, AN <i>.and ATTEND</i>
1	/	AT, IT
2	.	PLURAL WORD ENDING <i>sgs</i>
1	\$	DOLLAR SIGN <i>3H\$</i>
2	\$	DOLLAR SIGN <i>3h\$</i> THREE HUNDRED DOLLARS
1,2	=	DASH THREE HUNDRED DOLLARS
1,2	=	HYPHEN
2	//	NEW PARAGRAPH

TABLE 5—Nonalphabetic forms.

SYSTEM	SYMBOL	SYMBOL MEANING	EXAMPLE
1	˘	-ity	<i>gl˘</i> Note A quality
1	ˆ	em-, im-	<i>pro</i> impress
1	ˆ	wh-, v	<i>wh</i> when
2	—	in, nd, nt, mand, mend, ment	<i>—</i> sent cement
2	/	rd, rt, rk ward	<i>al/</i>
1	—	-ing	<i>bl—</i> alert Note B
2	—	-ed	<i>bl—</i> billing Note B
1	—	-ed	<i>bl—</i> fixed Note D limited
2	=	capitalization	<i>bl=</i> Betty Note C
1	=	-s	<i>bl=</i> savings
1	'	-ness	<i>kn'</i> kindness
1	'	superscript number	<i>sn'</i> someone

TABLE 6—System 2 superscript and subscript forms in abbreviations.

<u>Wd</u>	Wednesday	<u>Vt</u>	Vermont (VT)
<u>Oc</u>	October	<u>Va</u>	Virginia (VA)
<u>Dc</u>	December	<u>Wa</u>	Washington (WA)
<u>Wn</u>	Western	<u>Wv</u>	West Virginia (WV)
<u>Ne</u>	Northeast	<u>Wc</u>	Wisconsin (WI)
<u>Se</u>	Southeast	<u>Wy</u>	Wyoming (WY)
<u>Sw</u>	Southwestern	<u>Pr</u>	Puerto Rico (PR)
<u>De</u>	Delaware (DE)	<u>Vi</u>	Virgin Islands (VI)
<u>Dc</u>	District of Columbia (DC)	<u>On</u>	Ontario (ON)
<u>Oh</u>	Ohio (OH)	<u>Pe</u>	Prince Edward Island (PE)
<u>Ok</u>	Oklahoma (OK)	<u>Ab</u>	About
<u>Or</u>	Oregon (OR)	<u>Wt</u>	Without
<u>Pa</u>	Pennsylvania (PA)		

phrase “to know” is written in a single word outline as tno (written in cursive writing with the t uncrossed).

Figure 1 shows examples of the four systems.

Conclusions

The four alphabetic speedwriting shorthand system that were analyzed for this paper have one feature in common. All four systems have the primary purpose of providing the writer with a systematic method for rapidly taking notes or transcribing. While the specific designations in each system of letter simplification, multiple forms, printed and cursive forms, joined and disjoined forms, subscript and superscript forms, nonalphabetic forms, and abbreviations are quite different and apparently somewhat arbitrary, they do provide a specific set of class characteristics for each system.

Analysis of the four systems has provided enough specific differences in the class characteristics to distinguish between the systems, provided an adequate quantity of writing is studied. Obviously, if only a limited amount of writing is observed, there may be a question as to the certainty of system identification. It must also be remembered that this is only relevant to class characteristics. Therefore, no erroneous conclusions should be made about an individual writer. In fact, some systems encourage the student to modify the system to meet his or her individual needs.

It is significant that Systems 1 and 2 use more nonalphabetic symbols than Systems 3 and 4. This is apparently a strategy by the authors of the newer systems to make their systems easier and quicker to learn. In this author’s opinion, it is easier to differentiate

TABLE 7—Continued.

Letter	LETTER IN WORD OUTLINE											Notes			
	System	Letter	Capital (C) or Small(s)	Unique System Meaning	Simplification of Letter	More Than One Form	Cursive	Printed	Joined to Word Outline	Disjoined/Word Outline	Subscript		Superscript	Cursive-Abbreviations	Printed-Abbreviations
K	1	C	X	X	X	X	X	X	X				X		
	2	S	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
L	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
M	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	C	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
N	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	C	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
O	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	C	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
P	1	C	X	X	X	X	X	X	X				X		
	2	S	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
Q	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
R	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	C	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
S	1	C	X	X	X	X	X	X	X				X		
	2	S	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
T	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	C	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		
U	1	C	X	X	X	X	X	X	X				X		
	2	C	X	X	X	X	X	X	X				X		
	3	S	X	X	X	X	X	X	X				X		
	4	S	X	X	X	X	X	X	X				X		

SYSTEM 1

*Most of our staff (80%)
have had their vacations.*

SYSTEM 2

*This must be copied by
someone who writes legibly.*

SYSTEM 3

*If you have any questions
regarding the development
site, I suggest you call Mr.
Rich at a time convenient
for you.*

SYSTEM 4

*Before doing your state
taxes, send for this publication.*

FIG. 1—Examples of the four alphabetic speedwriting shorthand systems.

between Systems 1 and 2 than between Systems 3 and 4. This is a direct result of the use of nonalphabetic symbols. System 4 is notable in that it combines study skill development with an alphabetic speedwriting system which is designed for note-taking. System 3 is also published in a format "designed to teach notetaking skill . . . for personal, education, and business use" [9].

As stated before, Tables 1 through 7 contain a total compilation of the selected class characteristics of all four systems. The author believes that this information will provide a resource for questioned document examiners who may face a document problem involving alphabetic speedwriting shorthand systems.

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